Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-13. (Cancelled).

14. (Currently Amended) A device for the controlled release of chemical molecules comprising:

an array of discrete microtubes constructed of a metal or an alloy, each microtube comprising a reservoir defined therein;

a release formulation which comprises the chemical molecules, the release formulation being disposed in each reservoir;

a rupturable covering which closes an opening at a first end of each reservoir; and

a means for rupturing the rupturable covering and positively displacing the release formulation through the opening at the first end, to release the chemical molecules.

15. (Original) The device of claim 14, wherein the rupturable covering is provided with one or more defects to facilitate rupture.

16. (Original) The device of claim 14, wherein the means comprises a layer of an expanding material, and the release formulation is disposed between the layer of expanding material and the rupturable covering.

17. (Original) The device of claim 16, wherein a layer of a barrier material is disposed between the release formulation and the expanding material.

18. (Previously Presented) The device of claim 16, wherein the expanding material can be activated to expand upon application of heat.

19. (Currently Amended) A device for the controlled release of chemical molecules comprising:

an array of discrete microtubes, each microtube comprising a reservoir defined therein;

a release formulation which comprises the chemical molecules, the release formulation being disposed in each reservoir;

a rupturable covering enclosing a first end of each reservoir; and

a means for rupturing the rupturable covering and positively displacing the release formulation through an opening at the first end, to release the chemical molecules,

wherein the means for rupturing comprises a layer of an expanding material which can be activated to expand upon application of heat and a resistive heating element or resistive coating for heating the end of the microtube distal the rupturable covering upon application of an electric current through the resistive heating element or resistive coating, the release formulation being disposed between the layer of expanding material and the rupturable covering.

20. (Original) The device of claim 18, wherein the means for rupturing comprises a reactive coating over at least a portion of the end of the microtube distal the rupturable covering.

21. (Currently Amended) The device of claim 14, wherein at least a portion of the array of discrete microtubes is constructed of a shape memory alloy.

22. (Original) The device of claim 14, wherein the release formulation is contained in a rigid substructure within the reservoir.

23. (Original) The device of claim 14, wherein the release formulation is a drug formulation.

24. (Original) The device of claim 14, wherein the rupturable covering comprises a metal foil.

25. (Original) The device of claim 14, wherein the microtubes are connected by and extend from a planar base.

26. (Previously Presented) The device of claim 25, wherein the microtubes and the planar base are constructed of a biocompatible metal.

27. (Original) The device of claim 26, wherein the biocompatible metal is selected from the group consisting of titanium, gold, platinum, Nitinol, and stainless steel.

28. (Original) The device of claim 25, wherein the microtubes are fused to the planar base by an electroplating process, an electroless plating process, or by a brazing process.

29. (Previously Presented) The device of claim 25, wherein the planar base is joined to a metal package, which together enclose control electronics for controlling the means for rupturing.

30-34. (Cancelled).

35. (Original) A method for the controlled delivery of chemical molecules, comprising:

placing the device of claim 14 at a site for release of the chemical molecules; and

activating the rupturing means to rupture the rupturable covering and release the chemical molecules at the site.

36. (Original) The method of claim 35, wherein the chemical molecules comprise a drug and the site is *in vivo*.

37-38. (Cancelled).

39. (Previously Presented) The device of claim 14, wherein each microtube has an inner diameter of between about 0.5 mm and 1.0 mm.

40. (Previously Presented) The device of claim 16, further comprising a semipermeable membrane enclosing a second end of each reservoir distal the rupturable covering, the semipermeable membrane being operable to permit selected molecules from outside the reservoir to diffuse to the expanding material to cause the expanding material to expand and displace the release formulation in an amount effective to rupture the rupturable covering and discharge the release formulation from the reservoir.

41. (Previously Presented) The device of claim 40, further comprising a reservoir cap, which covers the semi-permeable membrane, and a means for selectively disintegrating the reservoir cap.

42. (Previously Presented) The device of claim 19, wherein the release formulation is a drug formulation.

43. (Previously Presented) The device of claim 19, wherein the rupturable covering comprises a metal foil.

44. (Previously Presented) The device of claim 19, wherein the rupturable covering is provided with one or more defects to facilitate rupture.

45. (Previously Presented) The device of claim 19, wherein the microtubes are constructed of titanium, gold, platinum, Nitinol, stainless steel, or another metal or alloy.

46. (Previously Presented) The device of claim 19, wherein the microtubes are connected by and extend from a planar base.

47. (Previously Presented) The device of claim 46, wherein the planar base is joined to a metal package, which together enclose control electronics for controlling the means for rupturing.